

water, which they fetch wholly from Springs, whereof the Country is so full, that there is not a house but hath one nigh the door.

*Advertisement concerning the Quantity of a Degree of a Great Circle, in English measures.*

SOME while since an account was given\* concerning the *Quantity of a Degree of a great Circle*, according to the tenour of a printed *French* Discourse, entituled *De la Mesure de la Terre*. The Publisher not then knowing what had been done of that nature here in *England*, but having been since directed to the perusal of a Book, composed and published by that known Mathematician *Richard Norwood* in the year 1636, entituled *The Seaman's Practice*, wherein, among other particulars, the compass of the *Terraqueous Globe*, and the *Quantity of a Degree* in *English* measures are deliver'd, approaching very near to that, which hath been lately observ'd in *France*; he thought, it would much conduce to mutual confirmation, in a summary Narrative to take publick notice here of the method used by the said *English* Mathematician, and of the result of the same; which, in short, is as follows:

A. 1635 the said Mr. *Norwood*, Reader of the Mathematicks in *London*, observ'd, as exactly as he could, the Summer-Solstitial Meridian Altitude of the Sun in the middle of the City of *York*, by an Arch of a Sextant of more than five foot *radius*, and found it to be 59 deg. 33'. And formerly (*vid. A. 1633.*) he had observ'd the like Altitude in the City of *London* near the *Tower* to be 62 deg. 1'. Whereupon he actually measured, for the most part, the way from *York* to *London* with Chains, and where he measur'd not, he paced it, (wherein, *he saith*, through custom he usually came very near the truth;) observing all the way he came, with a *Circumferentor*, all the principal Angles of position or windings of the way, with a competent allowance for other lesser Windings, Ascents and Descents; not laying these down by a *Protractor* after the usual manner, but framing a *Table* much exacter and fitter for this purpose; as may be seen in the *English* book it self. And by this Method and Measure he found the Parallel of *York* from that of *London* to be 9149 chains, every chain being six poles or ninety nine feet,  $16\frac{1}{2}$  *English* feet to a Pole. Now, these 9149 Chains being equal to 2 deg. 28' (the aforesaid Latitude between those two Cities) a little calculation makes it appear, that one Degree of a Great Circle, measured on the Earth, is 367196 of our feet, *numero rotundo* 367200, or 22254 Poles; which make 556 Furlongs and 14 Poles,

14 Poles, or  $69\frac{1}{2}$  *English* miles and 14 Poles; 8 Furlongs to a mile, and 40 Poles to a Furlong. Which being compared to that measure of a Degree, which is deliver'd in the above-mention'd *French* Discourse, will be found to come very near it, they finding 73 miles *ferè*, at 5000 feet to an *English* mile, which make 365000 feet; whereas the  $69\frac{1}{2}$  *English* miles and 14 Poles, found by Mr. *Norwood*, amount to 367200 feet, reckoning 5280 feet to an *English* mile, as the true measure of it is; whence the difference between these two measures appears to be no more than 2200 feet, which is not half an *English* mile by 440 feet.

If any one desire to know further the whole *Circumference*, as also the *Diameter* and *Semidiameter* of the said Terraqueous Globe, according to this measure, he will easily find,

The Circumference to be 25056 *ferè*.

The Diameter, 7966

The Semidiameter, 3983

*Observations made of the late Solar Eclipse on the first of June, 1676. ft.v.*

One, by *Francis Smethwicke* Esquire, as followeth:

**I** Nitium defectionis Westmonasterii h. 7. 50'. } post med. noctem  
Finis, h. 9. 54 $\frac{3}{4}$ . } Junii 1. 1676.

Totius Eclipsis duratio, horæ 2. 4 $\frac{3}{4}$ .

Tempus observatum fuit cum horologio oscillatorio, vibrante minuta secunda, & correcto per observationes. Tubus adhibitus fuit bonæ notæ, pedum 7 $\frac{1}{2}$ .

The other, by Mr. *Golson* at *Wapping*, near *London*, as followeth;

Temp. juxta horol. oscill.	Phases.	Solis alt.	Tempus correct. ex altit.
h. . "		o	h. . "
7.34.50		22.46	7.36. 0
7.37.14		33.10	7.38.40
7.39.10	dig.	33.30	7.40.48
7.50.40	$\frac{1}{4}$	—	7.51.51
8. 8.34	$1\frac{1}{4}$	—	8. 9.45
8.17.25	$2\frac{1}{10}$	—	8.18.36
8.27.10	$3\frac{1}{10}$	—	8.28.21
9.39.—	$1\frac{1}{2}$	—	9.40.—
9.43.—	$1\frac{1}{4}$	—	9.44.—
9.48.—	$\frac{1}{4}$	—	9.49.—
9.54.25	non finita	—	9.55.36
9.55.55	finita.	—	9.57. 6
4.26. 5	Solis alt.	32.10	4.26.56
4.28.58		31.53	4.29.52
4.31. 21		31.31	4.32.16

Tubo optico æstim.

Tubo optico mensur.

Tubo æstim.